REMARKS

I. Note on Claims.

In the Office Action mailed on March 9, 2005 (the "March 9 Office Action"), the Examiner asked that the Applicant note that in the response dated 12/20/04, claims 22-25 were withdrawn while in the response dated 7/28/04 claims 22-25 were canceled without prejudice. As requested, the listing of claims herein reflects the correct information. This listing replaces all prior claim listings and versions of claims in the application.

II. Rejections as to 35 U.S.C. § 102(b):

In the March 9 Office Action, claims 1-4, 6 and 7 stand rejected under 35 U.S.C. § 102(b) as being anticipated by U.S. Pat. No. 4,982,265 to Watanabe, et al. ("*Watanabe*"). The rejection is traversed.

In the March 9 Office Action, the Examiner disregarded the first introduced element of claim 1 of the present claims (i.e., "flex circuit") to construct his Section 102 rejection. Later, he equated what the cited reference *Watanabe* described as a base plate made of ceramic with the flex substrate limitation of the claims by saying that "*all things are flexible, to some degree.*" In rejecting other claims, the Examiner misconstrued the cited art. Therefore, to assist the Examiner in understanding the art and the invention, the Applicant requests the Examiner's attention to the following discussion after which we believe that the Examiner will agree that the present claims are allowable.

The Examiner says that claims 1-4, 6 and 7 are anticipated by *Watanabe*. As part of that proposition, the Examiner cites in particular, reference 1 of Figs. 1 and 2 of *Watanabe* and states that the reference:

"*teaches a chip stack comprising:*

a flex circuit comprising:

a flex substrate [1];

* * * * *." (Office action page 3.)

The Applicant has studied *Watanabe* and, in particular, the cited Fig. 1 and Fig. 2 and the reference therein as well as the accompanying text and has not found where the flex circuit as recited in the present claims appears as part of the teachings of *Watanabe*. Instead of finding the flex circuit, the Examiner has instead, purported to find that the ceramic base plate of the reference is actually a flex substrate. However, putting aside the rationale for that comparison (i.e., the Examiner's "everything is flexible" argument) the larger claim limitation "flex circuit" remains unattributed to any structure in *Watanabe*. It is elementary that the flex circuit (which is a recited element of claim 1 and its dependents) must be found in an allegedly anticipatory reference. The Examiner's failure to find a flex circuit as opposed to a flex substrate prevents this Office Action from adequately making out a proper Section 102 anticipation rejection.

Instead of finding the limitation, "a flex circuit", the Examiner has purported to find in *Watanabe* a flex substrate. Finding what is attributed to be a flex substrate is not the same thing as finding a flex circuit. The recited flex substrate is **part** of the flex circuit but it is not the same. Further, the flex substrate element does not stand alone. If no flex circuit is found, no flex substrate can be found, because the flex substrate must be found as it is found in the claims – that is, it must be found as part of a flex circuit.

Where the Examiner infers the existence of the flex substrate, the *Watanabe* reference actually says, "*[r]eferring to FIGS. 1 thru 3, numeral 1 designates a module base plate which is constructed by stacking pluralities of ceramic layers and wiring layers by the use of laminated*

ceramic." (*Watanabe*, Col. 5, ll. 37-41.) By unusual logic, the Examiner then states that because "*all things are flexible, at least to some degree*" the ceramic base plate 1 is tantamount to a flex substrate (Page 3 of Office action of March 9, 2005). Such an interpretation of the word "*flexible*" is contrary to the plain meaning of the word "flexible" in the English language and the function of the ceramic base plate in the *Watanabe* reference. As will be further discussed below, if the ceramic base plate of *Watanabe* were flexible, there would be no structural integrity for the Watanabe device rendering it unuseable for its intended function.

Further, in addition to saying that the ceramic base plate is flexible because all things are flexible, "*at least to some degree*", the Examiner does not say that the base plate is the flex circuit he says it is the flex subtrate. Thus, he fails to find the required introductory element, flex circuit, in the reference.

Consequently, the March 9 Office action does not make out a sufficient Section 102 rejection because it does not offer a reference that includes each and every element of claim 1. In particular, the March 9 Office action does not offer a citation for the recited element – "flex circuit." Consequently, the Section 102 rejection must be withdrawn as to claim 1 as well as all of the claims which depend from claim 1 and to which such a rejection has appended (i.e., claims 2-4, 6, and 7).

III. Rejections under 35 U.S.C. § 103(a) – Claims 5, 8 and 9.

Claims 5, 8 and 9 stand rejected under Section 103(a) as being unpatentable over *Watanabe*. The rejection is traversed.

The March 9 Office action does not set forth a *prima facie* case of obviousness for at least the following reasons. To establish a *prima facie* case of obviousness, three basic criteria must be met. First, there must be some suggestion or motivation, either in the references

themselves or in the knowledge generally available to one of ordinary skill in the art, to modify the reference or to combine reference teachings. M.P.E.P. § 2143. Second, there must be a reasonable expectation of success Id. Third, the prior art reference (or references when combined) must teach or suggest all the claim limitations. Id. Moreover, the requisite teaching or suggestion to make the claimed combination and the reasonable expectation of success must both be found in the prior art, not in applicant's disclosure. M.P.E.P. § 706.02(j) (citing In re Vaeck, 947 F.2d 488, 20 U.S.P.Q.2d 1438 (Fed. Cir. 1991)). There is no *prima facie* case of obviousness because *Watanabe* does not teach or suggest the claimed subject matter of claims 5, 8 or 9.

Watanabe teaches use of a separate structure (the ceramic base plate) to supply the structural integrity needed for a device to perform as a module. In contrast, the present invention obtains its structural integrity from the packaging of the devices from which its module is constituted. This is a clear distinction between the respective strategies for building a circuit module. Thus, because *Watanabe* provides a ceramic base to provide structure for unpackaged die, it could not and does not suggest (a) using a flexible connector rather than a rigid base plate or (b) the use of packaged devices rather than die. Such an approach is that of the present invention and is actually taught away from by *Watanabe*.

Unlike the Examiner's impression of the reference, *Watanabe* teaches the use of unpackaged integrated circuits. At Col. 2, ll. 37-41, the reason for the *Watanabe* use of unpackaged circuits is explained, "*the semiconductor chips are not sealed with in packages, therefore the packaging density of the semiconductor chips on the module base plate can be increased.*" For *Watanabe*, there is a reason to use unpackaged chips. Density can be increased. Thus, *Watanabe* teaches away from use of the packaged devices. On the other hand, the present

invention employs packaged devices to provide structure for the module. In *Watanabe*, that structural integrity is provided by the ceramic base plate. Thus, *Watanabe* gets structural integrity from the connector and not the integrated circuit devices while in the present invention, structure is provided by the devices and not the connector. These different perspectives on solving the issues of structure are mutually exclusive. Thus, *Watanabe* cannot render the present invention obvious.

Claim 5 includes all the limitations of claim 1 from which it depends. Claim 1 recites, amongst other elements, a flex circuit and at least two integrated circuit packages. As shown above, the cited *Watanabe* has neither such element and, importantly, teaches away from use of flexible connectors. Thus, claim 5 cannot be rendered obvious by *Watanabe*.

As to claims 8 and 9, these claims depend directly and indirectly, respectively, on claim 6. As to claim 6, the Examiner has said,

"Watanabe teach the integrated circuit chip packages each comprise: a package body [4A-D] having opposed, generally planar top and bottom surfaces * * *. (Office action March 9, 2005)

Applicants are puzzled by that assertion. *Watanabe* states in multiple places that the chips are not sealed within packages.

Example 1 from the Summary: *"the semiconductor chips are not sealed with in packages* * * *." (*Watanabe* Col. 2, ll. 36-41.)

Example 2 from the Description: *"Each of the semiconductor chips 4A, 4B, 4C, and 4D have, for example, a static RAM constructed therein. Structurally, it is not sealed with a package made of ceramic, a resin or the like, but its surface provided with semiconductor elements and wiring is molded with a resin 7."* (*Watanabe* at Col. 5, ll. 43-48.)

Again, *Watanabe* must have structure rigid enough to be useable, yet it employs unpackaged devices. Therefore, it must use a separate structure for rigidity – i.e., the ceramic base plate. The present invention, in contrast, employs packaged devices themselves for the required structure because, unlike *Watanabe,* the connector is flexible. This difference renders all the claims including 5, 8 and 9 non-obvious in light of W*atanbe*.

IV. Conclusion:

Given that we have demonstrated that the present claims are allowable over *Watanabe*, the Applicant respectfully requests that the Examiners issue a Notice of Allowance at his first convenience.

The Commissioner is hereby authorized to charge any excess claim fees to Deposit Account No. 50-3534. The Commissioner is hereby authorized to charge any fees deemed to be due or credit any overpayment to Deposit Account No. 50-3534, upon which the undersigned is authorized to sign

Respectfully submitted,

ANDREWS KURTH LLP

Date: Aug. 9, 2005

By: _____

J. Scott Denko
Registration No. 37,606
111 Congress Avenue
Suite 1700
Austin, Texas 78701
Telephone: (512) 320-9200
Facsimile: (512) 320-9292